

SEQUENCE LISTING

<110> McMahon, Andrew P  
Kispert, Andreas  
Vainio, Seppo

<120> Induction of Kidney Tubule Formation

<130> 21508-033 NATL

<140> 09/937,735

<141> 2001-09-28

<150> PCT/US99/07745

<151> 1999-04-08

<160> 12

<170> PatentIn Ver. 2.1

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Arg Trp Asn Cys Ser Ala Leu Gly Glu Arg Thr Val Phe Gly Lys Glu  
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Leu Lys Val Gly Ser Arg Asp Gly Ala Phe Thr Tyr Ala Ile Ile Ala  
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| ctggatgtgc  | acacatgcaa | ggcccccaag  | aacgctgact  | ggacaaccgc | tacatgaccc  | 1380 |
| cagcaggcgt  | caccatccac | cttcccttct  | acaaggactc  | cattggatct | gcaagaacac  | 1440 |
| tggacctttg  | ggttctttct | ggggggatat  | ttcctaaggc  | atgtggcctt | tatctcaacg  | 1500 |
| gaagccccct  | cttcctccct | ggggggccca  | ggatgggggg  | ccacacgctg | cacctaaagc  | 1560 |
| ctaccctatt  | ctatccatct | cctgggtgtc  | tgcagtcata  | tccccctctg | gcgagttctc  | 1620 |
| tttggaata   | gcatgacagg | ctgttcagcc  | gggaggggtg  | tgggcccaga | ccactgtctc  | 1680 |
| caccacacct  | gacgtttctt | ctttctagag  | cagttggcca  | agcagaaaaa | aaagtgtctc  | 1740 |
| aaaggagctt  | tctcaatgtc | ttcccacaaa  | tgggtccaat  | taagaaattc | catacttctc  | 1800 |
| tcagatggaa  | cagtaaagaa | agcagaatca  | actgccccctg | acttaacttt | aacttttgaa  | 1860 |
| aagaccaaga  | cttttgtctg | tacaagtggg  | tttacagcta  | ccacccttag | ggtaattggg  | 1920 |
| aattaccttg  | agaagaatgg | ctttcaatac  | ccttttaagt  | ttaaaatgtg | tatttttcaa  | 1980 |
| ggcattttatt | gccatattaa | aatctgatgt  | aacaaggtgg  | ggacgtgtgt | ccttttggtac | 2040 |
| tatggtgtgt  | tgtatctttg | taagagcaaa  | agcctcagaa  | agggattgct | ttgcattact  | 2100 |
| gtccccctga  | tataaaaaat | ctttagggaa  | tgagagttcc  | ttctcactta | gaatctgaag  | 2160 |
| ggaattaaaa  | agaagatgaa | tgggtctggca | atattctgta  | actattgggt | gaatatgggtg | 2220 |
| gaaaataatt  | tagtggatgg | aatatcagaa  | gtatatctgt  | acagatcaag | aaaaaaagga  | 2280 |
| agaataaaat  | tcctatatca | t           |             |            |             | 2301 |

<210> 8  
 <211> 2814  
 <212> DNA  
 <213> Mus musculus

|             |             |            |             |            |            |      |
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| <400> 8     |             |            |             |            |            |      |
| gaattcatgt  | cttacgggtca | aggcagaggg | cccagcgcca  | ctgcagccgc | gccacctccc | 60   |
| agggccgggc  | cagcccaggc  | gtccgcgctc | tcgggggtgga | ctccccccgc | tgcgcgctca | 120  |
| agccggcgat  | ggctcctctc  | ggatacctct | tagtgctctg  | cagcctgaag | caggctctgg | 180  |
| gcagctaccc  | gatctgggtg  | tccttggctg | tgggacccca  | gtactcctct | ctgagcactc | 240  |
| agcccattct  | ctgtgccagc  | atcccaggcc | tggtagcgaa  | gcagctgcgc | ttctgcagga | 300  |
| actacgtgga  | gatcatgccc  | agcgtggctg | aggggtgtcaa | agcgggcata | caggagtgcc | 360  |
| agcaccagtt  | ccgaggccgg  | cgttggaact | gcaccaccgt  | cagcaacagc | ctggccatct | 420  |
| ttggccctgt  | tctggacaaa  | gccaccgggg | agtcagcctt  | tgtccatgcc | atcgccctcg | 480  |
| ctggagtagc  | tttcgcagtg  | acacgctcct | gtgcagaggg  | atcagctgct | atctgtgggt | 540  |
| gcagcagccg  | cctccagggc  | tccccaggcg | agggctggaa  | gtggggcggc | tgtagtggag | 600  |
| acattgaatt  | tggaggaatg  | gtctctcggg | agtttgccga  | tgccaggagg | aaccggccgg | 660  |
| atgcccgctc  | tgccatgaac  | cgtcacaaca | atgaggctgg  | gcgccaggcc | atcgccagtc | 720  |
| acatgcacct  | caagtgcaaa  | tgccacgggc | tatctggcag  | ctgtgaagtg | aagacctgct | 780  |
| ggtggtcgca  | gccggacttc  | cgcaccatcg | gggatttctt  | caaggacaag | tatgacagtg | 840  |
| cctcggagat  | ggtggttagag | aaacaccgag | agtctcgtgg  | ctgggtggag | accctgaggc | 900  |
| cacgttacac  | gtacttcaag  | gtgccgacag | aacgcgacct  | ggtctactac | gaggcctcac | 960  |
| ccaacttctg  | cgaacctaac  | cccgaaccg  | gtccttctcg  | gacgcgtgac | cgcacctgca | 1020 |
| atgtgagctc  | gcatggcata  | gatgggtgcg | acctgttgtg  | ctgcgggcgc | gggcataacg | 1080 |
| cgcgactga   | gcgacggagg  | gagaaatgcc | actgtgtttt  | ccattgggtg | tgctacgtca | 1140 |
| gctgccagga  | gtgcacacgt  | gtctatgacg | tgcacacctg  | caagtaggag | agctcctaac | 1200 |
| acggggcag   | ggtttcttcc  | gaggggcaag | gttctacctt  | gggggcgggg | ttcctacttg | 1260 |
| gaggggtctc  | ttacttgggg  | actcggttct | tacttgaggg  | cggagatcct | acctgtgagg | 1320 |
| gtctcatacc  | taaggaccgg  | gtttctgcct | tcagcctggg  | ctcctatttg | ggatctgggt | 1380 |
| tccttttttag | gggagaagct  | cctgtctggg | atacgggttt  | ctgcccaggg | gtggggctcc | 1440 |
| acttggggat  | ggaattccaa  | tttgggcccg | aagtcctacc  | tcaatggctt | ggactcctct | 1500 |
| cttgaccgga  | cagggctcaa  | atggagacag | gtaagctact  | ccctcaacta | ggtgggggtt | 1560 |
| gtgcggatgg  | gtgggagggg  | agagattagg | gtccctcctc  | ccagaggcac | tgctctatct | 1620 |



|            |             |             |              |             |             |      |
|------------|-------------|-------------|--------------|-------------|-------------|------|
| agatacatga | gaggggtgctt | caggggtgggc | cctatatttggg | cttgaggatc  | ccgtggggggc | 1680 |
| ggggcttcac | cccgaactggg | tggaaactttt | ggagaccccc   | ttccactggg  | gcaaggcttc  | 1740 |
| actgaagact | catgggatgg  | agctccacgg  | aaggaggagt   | tcctgagcga  | gcctgggctc  | 1800 |
| tgagcaggcc | atccagctcc  | catctggccc  | ctttccagtc   | ctgggtgtaag | gttcaacctg  | 1860 |
| caagcctcat | ctgcgagag   | caggatctcc  | tggcagaatg   | aggcatggag  | aagaactcag  | 1920 |
| gggtgatacc | aagacctaac  | aaaccccgtg  | cctgggtacc   | tcttttaaag  | ctctgcaccc  | 1980 |
| cttcttcaag | ggctttccta  | gtctccttgg  | cagagctttc   | ctgaggaaga  | tttgcagtcc  | 2040 |
| cccagagtcc | aagtgaacac  | ccatagaaca  | gaacagactc   | tatcctgagt  | agagaggggt  | 2100 |
| ctctaggaat | ctctatgggg  | actgctagga  | aggatcctgg   | gcatgacagc  | ctcgtatgat  | 2160 |
| agcctgcata | cgctctgaca  | cttaatactc  | agatctcccc   | ggaaacccag  | ctcatccggg  | 2220 |
| ccgtgatgtc | catgccccaa  | atgcctcaga  | gatgttgctt   | cactttgagt  | tgtatgaact  | 2280 |
| tcggagacat | ggggacacag  | tcaagccgca  | gagccagggt   | tgtttcagga  | cccatctgat  | 2340 |
| tccccagagc | ctgctgttga  | ggcaatgggc  | accagatccg   | ttggccacca  | ccctgtcccc  | 2400 |
| agcttctcta | gtgtctgtct  | ggcctggaag  | tgagggtgcta  | catacagccc  | atctgccaca  | 2460 |
| agagcttcct | gattggtacc  | actgtgaacc  | gtccctcccc   | ctccagacag  | gggaggggag  | 2520 |
| gtggccatac | aggagtgtgc  | cgggagagcg  | cggaaagagg   | aagagaggct  | gcacacgcgt  | 2580 |
| ggtgactgac | tgtcttctgc  | ctggaacttt  | gcgttcgctc   | ttgtaacttt  | atcttcaatg  | 2640 |
| ctgctatata | caccaccac   | tggatttaga  | caaaagtgat   | tttctttttt  | tttttttctt  | 2700 |
| ttctttctat | gaaagaaatt  | atcttagttt  | atagtatgtt   | tgtttcaaat  | aatggggaaa  | 2760 |
| gtaaaaagag | agaaaaaaaa  | aaaaaaaaaa  | aaaaaaaaaa   | aaaaaaaaaa  | aaaa        | 2814 |

<210> 9  
 <211> 399  
 <212> DNA  
 <213> Homo sapiens

|             |             |
|-------------|-------------|
| <400> 9     |             |
| tgtaagtgcc  | acgggctgtc  |
| gacttcgcgc  | ccatcggtga  |
| gtggagaagc  | accgggagtc  |
| ttcaagggtgc | ccacggagcg  |
| cccaaccctg  | agacgggctc  |
| ggcatcgacg  | gctgcgacct  |
| cgccggggaga | agtgccgctg  |
| gaggtgaaga  | catgctgggtg |
| gacaagtacg  | acagcgccctc |
| gtggagaccc  | tgccggccgcg |
| tactacgagg  | cctcgcccaa  |
| cgcgacgcga  | cctgcaacgt  |
| ggcccgggcc  | acaacgcgcg  |
| tggtgctgt   |             |
|             | 60          |
|             | 120         |
|             | 180         |
|             | 240         |
|             | 300         |
|             | 360         |
|             | 399         |

<210> 10  
 <211> 450  
 <212> DNA  
 <213> Homo sapiens

|            |             |
|------------|-------------|
| <400> 10   |             |
| tgcaagtgtc | acgggggtgc  |
| cccttcgcgc | aggtgggtca  |
| ccacgccgcg | tgggtccttc  |
| acagatgagg | acctggtgta  |
| agcggcgtgc | tgggcacgag  |
| tgggcacgag | gggcccgcaca |
| tgtgctgtgg | ccgcggcttc  |
| aattccactg | gtgcttgttc  |
| gaggtaaaga | cgtgctggcg  |
| gagaagtatt | atgggtgccac |
| gtgccacgca | acgcacagtt  |
| agccccgact | tctgtgagca  |
| tgcaacaaga | cgtccaaggc  |
| cgtccaaggc | catcgacggc  |
| aggtggagct | ggctgaacgc  |
| tgagtcgac  |             |
|            | 60          |
|            | 120         |
|            | 180         |
|            | 240         |
|            | 300         |
|            | 360         |
|            | 420         |
|            | 450         |

<210> 11  
 <211> 396  
 <212> DNA  
 <213> Homo sapiens

<400> 11

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tgtaagtgtc acggcgtgtc aggctcgtgc accaccaaga cgtgctggac cacactgcc 60
cagtttcggg agctgggcta cgtgctcaag gacaagtaca acgaggccgt tcacgtggag 120
cctgtgctgt ccagccgcaa caagcggccc accttcctga agatcaagaa gccactgtcg 180
taccgcaagc ccatggacac ggacctggtg tacatcgaga agtcgcccaa ctactgcgag 240
ggggaccggg tgaccggcag tgtgggcacc cagggccgcg cctgcaacaa gacgggtccc 300
caggccagcg gctgtgacct catgtgctgt gggcgtggct acaacaccca ccagtacgcc 360
cgcgtgtggc agtgcaattg taagttccat tgggtgc 396
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<210> 12

<211> 404

<212> DNA

<213> Homo sapiens

<400> 12

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gtaaaatgtc acggcgtgtc tggctcctgc accaccaaaa cctgctggac cacgctgccc 60
aagttccgag aggtgggcca cctgctgaag gagaagtaca acgaggccgt gcaggtggag 120
gtggtgcggg ccagccgtct gcggcagccc accttcctgc gcatcaaaca gctgcgcagc 180
tatcagaagc ccatggagac agacctggtg tacattgaga agtcgcccaa ctactgcgag 240
gaggacgcgg ccacgggcag cgtgggcacg cagggccgct tctgcaaccg cacgtcgcgc 300
ggcgcggacg gctgtgacac catgtgctgc ggccgaggct acaacaccca ccagtacacc 360
aaggtgtggc agtgcaactg caaattccac tgggtgctgct ctag 404
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